

### **ABSTRACT OF THE DISCLOSURE**

A system and method for sending long distance telephone calls over the Internet utilizes cost and quality of service data to optimize system performance and to minimize the cost of completing the calls. The system utilizes a network of gateways connected to the Internet. The gateways receive calls from various service providers and convert the analog calls into data packets which are then placed onto the Internet. Similarly, the gateways take data packets off the Internet, convert the data packets back into analog format, and provide the analog telephone calls to the same or another service provider. The system periodically checks the quality of communications between each of the gateways, and uses this information, in combination with cost information, to determine how to route the calls over the Internet. Special addressing protocols can be used by a system embodying the invention to reduce or eliminate unnecessary signaling between gateways as call setup procedures are carried out.